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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MANOSKEY, JOSEPH D	

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/649,100	FUJIMOTO, SHUJI	
	Examiner	Art Unit	
	Joseph D. Manoskey	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Venkatesh et al., U.S. Patent 6,397,292, hereinafter referred to as "Venkatesh" in view of Luke et al., U.S. Patent Application Publication 2004/0133634 A1, hereinafter referred to as "Luke".

2. Referring to claim 1, Venkatesh teaches a data storage device controller that contains redundant processor channel adapters that interface with host processors that connect to two mirror disk arrays, this is interpreted as a storage device controller comprising channel control portions each including a circuit board on which a file access processing portion for receiving file-by-file data input/output requests sent from information processors and an I/O processor for outputting I/O requests corresponding to said data input/output requests to storage devices are formed, said channel control portions being classified into groups for the sake of fail-over (See Fig. 3 and Col. 4, lines 47-55).

Venkatesh also teaches storage controller having dual redundant data paths and multiple redundant processors in the event of a failure to single path failure, and the disks can be accessed by either channel adapters, this is interpreted as processing portion configured to decide that data for said channel control portions are stored in a shared volume which is a storage region logically set on physical storage regions provided by said storage devices and which can be accessed commonly by any other channel control portion belonging to the same group to carry out fail-over (See Fig. 3, and Col. 4, lines 47-55). Venkatesh teaches redundant processors which include redundant channel adapters to continue access in the event of a failure, this is interpreted as whereby a successor channel portion belonging to the same group as a predecessor channel receives data that have been previously received by the predecessor channel portion prior to failure thereof. (See Fig. 3, and Col. 4, lines 47-55).

Venkatesh is silent on the data regarding at least on IP address set and providing NAS service to said information processors and Venkatesh is silent on a successor channel control portion takes over the IP address of the predecessor channel portion, however Venkatesh does teach the system used as a network file server and teaches the use of redundant processors with redundant channel adapters (See Col. 4, lines 47-55 and Col. 5, lines 20-22). Luke teaches a system with NAS which supports NFS and TCP/IP (See page 4, paragraph 0083). Luke also teaches the use of a virtual service so that there is no need to reconfigure clients when services change and assigning virtual IP addresses (See page 4, paragraph 0081 and page 7, paragraph 0172). It

would have been obvious to one of ordinary skill in the art at the time of the invention to combine the data storage device and virtual services of Venkatesh with the NAS of Luke. This would have been obvious to one of ordinary skill in the art at the time of the invention to do because NAS provides support for the industry-standard network file service (NFS) (See Luke, page 4, paragraph 0083).

3. Referring to claim 2, Venkatesh teaches a data storage device controller that contains redundant processor channel adapters that interface with host processors that connect to two mirror disk arrays, this is interpreted as a storage device controller comprising channel control portions each including a circuit board on which a file access processing portion for receiving file-by-file data input/output requests sent from information processors and an I/O processor for outputting I/O requests corresponding to said data input/output requests to storage devices are formed, said channel control portions being classified into groups for the sake of fail-over (See Fig. 3 and Col. 4, lines 47-55).

Venkatesh also teaches the channel adapters having a shared memory for cache memory, this is interpreted as a processing portion configured to decide that data for said channel control portions are stored in a shared memory which is contained in said storage device controller and which can be accessed commonly by said channel control portions to carry out fail-over (See Fig. 3 and Col. 4, lines 55-61). Venkatesh teaches redundant processors which include redundant channel adapters to continue access in the event of a failure, this is interpreted as whereby a successor channel portion

belonging to the same group as a predecessor channel receives data that have been previously received by the predecessor channel portion prior to failure thereof. (See Fig. 3, and Col. 4, lines 47-55).

Venkatesh is silent on the data regarding at least on IP address set and providing NAS service to said information processors and Venkatesh is silent on a successor channel control portion takes over the IP address of the predecessor channel portion, however Venkatesh does teach the system used as a network file server and teaches the use of redundant processors with redundant channel adapters (See Col. 4, lines 47-55 and Col. 5, lines 20-22). Luke teaches a system with NAS which supports NFS and TCP/IP (See page 4, paragraph 0083). Luke also teaches the use of a virtual service so that there is no need to reconfigure clients when services change and assigning virtual IP addresses (See page 4, paragraph 0081 and page 7, paragraph 0172). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the data storage device and virtual services of Venkatesh with the NAS of Luke. This would have been obvious to one of ordinary skill in the art at the time of the invention to do because NAS provides support for the industry-standard network file service (NFS) (See Luke, page 4, paragraph 0083).

4. Referring to claim 3, Venkatesh teaches a data storage device controller that contains redundant processor channel adapters that interface with host processors that connect to two mirror disk arrays, this is interpreted as a storage device controller comprising channel control portions each including a circuit board on which a file access

processing portion for receiving file-by-file data input/output requests sent from information processors and an I/O processor for outputting I/O requests corresponding to said data input/output requests to storage devices are formed, said channel control portions being classified into groups for the sake of fail-over (See Fig. 3 and Col. 4, lines 47-55).

Venkatesh also teaches the disk arrays being mirrored so that the second disk array contains a copy of all the data from the first disk array, this is interpreted as a processing portion configured to decide that data for said channel portions are sent to another channel control portion belonging to the same group, through a network connecting said channel portions to one another to carry out fail-over (See Fig. 3, and Col. 4, lines 30-36). Venkatesh teaches redundant processors which include redundant channel adapters to continue access in the event of a failure, this is interpreted as whereby a successor channel portion belonging to the same group as a predecessor channel receives data that have been previously received by the predecessor channel portion prior to failure thereof. (See Fig. 3, and Col. 4, lines 47-55).

Venkatesh is silent on the data regarding at least on IP address set and providing NAS service to said information processors and Venkatesh is silent on a successor channel control portion takes over the IP address of the predecessor channel portion, however Venkatesh does teach the system used as a network file server and teaches the use of redundant processors with redundant channel adapters (See Col. 4, lines 47-55 and Col. 5, lines 20-22). Luke teaches a system with NAS which supports NFS and

TCP/IP (See page 4, paragraph 0083). Luke also teaches the use of a virtual service so that there is no need to reconfigure clients when services change and assigning virtual IP addresses (See page 4, paragraph 0081 and page 7, paragraph 0172). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the data storage device and virtual services of Venkatesh with the NAS of Luke. This would have been obvious to one of ordinary skill in the art at the time of the invention to do because NAS provides support for the industry-standard network file service (NFS) (See Luke, page 4, paragraph 0083).

5. Referring to claim 4, Venkatesh and Luke disclose all the limitations (See rejection of claim 1) including the disk arrays being mirrored so that the second disk array contains a copy of all the data from the first disk array, this is interpreted as local volumes which are storage regions logically set on said physical storage regions provided by said storage devices and which can be accessed by said channel control portions individually and respectively are assigned to said channel control portions respectively and said processing portion further decides that said data are stored in said local volume of the other channel control portion belonging to the same group as said channel control portion updating said data (See Venkatesh, Fig. 3, and Col. 4, lines 30-36).

6. Referring to claim 5, Venkatesh and Luke teach all the limitations (See rejection of claim 1) including the disk arrays being mirrored so that the second disk array

contains a copy of all the data from the first disk array, this is interpreted as local volumes which are storage regions logically set on said physical storage regions provided by said storage devices and which can be accessed by said channel control portions individually and respectively are assigned to said channel control portions respectively and said processing portion further decides that said data are stored in said local volume of the other channel control portion belonging to the same group as said channel control portion updating said data (See Venkatesh, Fig. 3, and Col. 4, lines 30-36).

Venkatesh also teaches the channel adapters having a shared memory for cache memory and cache index, this is interpreted as said storage device controller further comprises an inherited data reference table on which reference destinations of said data are recorded and said processing portion reads said data from any one of said shared volume, said shared memory and said local volumes on the basis of said reference destinations of said data recorded in said inherited data reference table (See Venkatesh, Fig. 3 and Col. 4, lines 55-61).

7. Referring to claim 6, Venkatesh and Luke disclose all the limitations (See rejection of claim 3) including the disk arrays being mirrored so that the second disk array contains a copy of all the data from the first disk array, this is interpreted as wherein said processing portion sends said data to all said channel control portions in said storage device controller through said network when said data are shared data

allowed to be referred to by all said channel control portions in said storage device controller (See Venkatesh, Fig. 3, and Col. 4, lines 30-36).

8. Referring to claim 7, Venkatesh and Luke teach all the limitations (See rejection of claim 1) including the disk arrays being mirrored so that the second disk array contains a copy of all the data from the first disk array, this is interpreted as wherein said processing portion stores said data in a second shared volume which is a storage region logically set on physical storage regions provided by said storage devices and which can be accessed commonly by all said channel control portions in said storage device controller when said data are shared data allowed to be referred to by all said channel control portions in said storage device controller (See Venkatesh, Fig. 3, and Col. 4, lines 30-36).

9. Referring to claim 8, Venkatesh and Luke disclose all the limitations (See rejection of claim 1) including the server being configured to be a network file server, this is interpreted as wherein said data handed over at the time of said fail-over contain at least one of NFS user data, CIFS user data, system administrator data, fail-over heart beat, IP address of a channel control portion, NFS file lock information and cluster control information (See Venkatesh, Col. 5, lines 20-22).

10. Referring to claim 9, Venkatesh teaches a method of using a data storage device controller that contains redundant processor channel adapters that interface with host

processors that connect to two mirror disk arrays, this is interpreted as a control method for a storage device controller including channel control portions each including a circuit board on which a file access processing portion for receiving file-by-file data input/output requests sent from information processors and an I/O processor for outputting I/O requests corresponding to said data input/output requests to storage devices are formed, said channel control portions being classified into groups for the sake of fail-over (See Fig. 3 and Col. 4, lines 47-55).

Venkatesh also teaches the storage controller having dual redundant data paths and multiple redundant processors in the event of a failure to single path failure, and the disks can be accessed by either channel adapters, this is interpreted as deciding that data for said channel control portions are stored in a shared volume which is a storage region logically set on physical storage regions provided by said storage devices and which can be accessed commonly by any other channel control portion belonging to the same group to carry out fail-over (See Fig. 3, and Col. 4, lines 47-55). Venkatesh teaches redundant processors which include redundant channel adapters to continue access in the event of a failure, this is interpreted as whereby a successor channel portion belonging to the same group as a predecessor channel receives data that have been previously received by the predecessor channel portion prior to failure thereof. (See Fig. 3, and Col. 4, lines 47-55).

Venkatesh is silent on the data regarding at least on IP address set and providing NAS service to said information processors and Venkatesh is silent on a successor channel control portion takes over the IP address of the predecessor channel portion,

however Venkatesh does teach the system used as a network file server and teaches the use of redundant processors with redundant channel adapters (See Col. 4, lines 47-55 and Col. 5, lines 20-22). Luke teaches a system with NAS which supports NFS and TCP/IP (See page 4, paragraph 0083). Luke also teaches the use of a virtual service so that there is no need to reconfigure clients when services change and assigning virtual IP addresses (See page 4, paragraph 0081 and page 7, paragraph 0172). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the data storage device and virtual services of Venkatesh with the NAS of Luke. This would have been obvious to one of ordinary skill in the art at the time of the invention to do because NAS provides support for the industry-standard network file service (NFS) (See Luke, page 4, paragraph 0083).

11. Referring to claim 10, Venkatesh teaches a method of using a data storage device controller that contains redundant processor channel adapters that interface with host processors that connect to two mirror disk arrays, this is interpreted as a control method for a storage device controller comprising channel control portions each including a circuit board on which a file access processing portion for receiving file-by-file data input/output requests sent from information processors and an I/O processor for outputting I/O requests corresponding to said data input/output requests to storage devices are formed, said channel control portions being classified into groups for the sake of fail-over (See Fig. 3 and Col. 4, lines 47-55).

Venkatesh also teaches the channel adapters having a shared memory for cache memory, this is interpreted as a deciding that data for said channel control portions are stored in a shared memory which is contained in said storage device controller and which can be accessed commonly by said channel control portions to carry out fail-over (See Fig. 3 and Col. 4, lines 55-61). Venkatesh teaches redundant processors which include redundant channel adapters to continue access in the event of a failure, this is interpreted as whereby a successor channel portion belonging to the same group as a predecessor channel receives data that have been previously received by the predecessor channel portion prior to failure thereof. (See Fig. 3, and Col. 4, lines 47-55).

Venkatesh is silent on the data regarding at least on IP address set and providing NAS service to said information processors and Venkatesh is silent on a successor channel control portion takes over the IP address of the predecessor channel portion, however Venkatesh does teach the system used as a network file server and teaches the use of redundant processors with redundant channel adapters (See Col. 4, lines 47-55 and Col. 5, lines 20-22). Luke teaches a system with NAS which supports NFS and TCP/IP (See page 4, paragraph 0083). Luke also teaches the use of a virtual service so that there is no need to reconfigure clients when services change and assigning virtual IP addresses (See page 4, paragraph 0081 and page 7, paragraph 0172). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the data storage device and virtual services of Venkatesh with the NAS of Luke. This would have been obvious to one of ordinary skill in the art at the time of the

invention to do because NAS provides support for the industry-standard network file service (NFS) (See Luke, page 4, paragraph 0083).

12. Referring to claim 11, Venkatesh teaches a method of using a data storage device controller that contains redundant processor channel adapters that interface with host processors that connect to two mirror disk arrays, this is interpreted as a control method for a storage device controller comprising channel control portions each including a circuit board on which a file access processing portion for receiving file-by-file data input/output requests sent from information processors and an I/O processor for outputting I/O requests corresponding to said data input/output requests to storage devices are formed, said channel control portions being classified into groups for the sake of fail-over (See Fig. 3 and Col. 4, lines 47-55).

Venkatesh also teaches the disk arrays being mirrored so that the second disk array contains a copy of all the data from the first disk array, this is interpreted as a sending data for said channel portions to another channel control portion belonging to the same group, through a network connecting said channel portions to one another to carry out fail-over (See Fig. 3, and Col. 4, lines 30-36). Venkatesh teaches redundant processors which include redundant channel adapters to continue access in the event of a failure, this is interpreted as whereby a successor channel portion belonging to the same group as a predecessor channel receives data that have been previously received by the predecessor channel portion prior to failure thereof. (See Fig. 3, and Col. 4, lines 47-55).

Venkatesh is silent on the data regarding at least on IP address set and providing NAS service to said information processors and Venkatesh is silent on a successor channel control portion takes over the IP address of the predecessor channel portion, however Venkatesh does teach the system used as a network file server and teaches the use of redundant processors with redundant channel adapters (See Col. 4, lines 47-55 and Col. 5, lines 20-22). Luke teaches a system with NAS which supports NFS and TCP/IP (See page 4, paragraph 0083). Luke also teaches the use of a virtual service so that there is no need to reconfigure clients when services change and assigning virtual IP addresses (See page 4, paragraph 0081 and page 7, paragraph 0172). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the data storage device and virtual services of Venkatesh with the NAS of Luke. This would have been obvious to one of ordinary skill in the art at the time of the invention to do because NAS provides support for the industry-standard network file service (NFS) (See Luke, page 4, paragraph 0083).

13. Referring to claim 12, Venkatesh and Luke disclose all the limitations (See rejection of claim 9) including the disk arrays being mirrored so that the second disk array contains a copy of all the data from the first disk array, this is interpreted as local volumes which are storage regions logically set on said physical storage regions provided by said storage devices and which can be accessed by said channel control portions individually and respectively are assigned to said channel control portions respectively and said processing portion further decides that said data are stored in said

local volume of the other channel control portion belonging to the same group as said channel control portion updating said data (See Venkatesh, Fig. 3, and Col. 4, lines 30-36).

14. Referring to claim 13, Venkatesh and Luke teach all the limitations (See rejection of claim 9) including the disk arrays being mirrored so that the second disk array contains a copy of all the data from the first disk array, this is interpreted as local volumes which are storage regions logically set on said physical storage regions provided by said storage devices and which can be accessed by said channel control portions individually and respectively are assigned to said channel control portions respectively and storing said data in said local volume of the other channel control portion belonging to the same group as said channel control portion belonging to the same group as said channel control portion updating said data (See Venkatesh, Fig. 3, and Col. 4, lines 30-36).

Venkatesh also teaches the channel adapters having a shared memory for cache memory and cache index, this is interpreted as referring to an inherited data reference table on which reference destinations of said data are recorded and reading said data from any one of said shared volume, said shared memory and said local volumes on the basis of said reference destinations of said data recorded in said inherited data reference table (See Venkatesh, Fig. 3 and Col. 4, lines 55-61).

15. Referring to claim 14, Venkatesh and Luke disclose all the limitations (See rejection of claim 11) including the disk arrays being mirrored so that the second disk array contains a copy of all the data from the first disk array, this is interpreted as further comprising sending said data to all said channel control portions in said storage device controller through said network when said data are shared data allowed to be referred to by all said channel control portions in said storage device controller (See Venkatesh, Fig. 3, and Col. 4, lines 30-36).

16. Referring to claim 15, Venkatesh and Luke teach all the limitations (See rejection of claim 9) including the disk arrays being mirrored so that the second disk array contains a copy of all the data from the first disk array, this is interpreted as further comprising storing said data in a second shared volume which is a storage region logically set on physical storage regions provided by said storage devices and which can be accessed commonly by all said channel control portions in said storage device controller when said data are shared data allowed to be referred to by all said channel control portions in said storage device controller (See Venkatesh, Fig. 3, and Col. 4, lines 30-36).

17. Referring to claim 16, Venkatesh and Luke disclose all the limitations (See rejection of claim 9) including the server being configured to be a network file server, this is interpreted as wherein said data handed over at the time of said fail-over contain at least one of NFS user data, CIFS user data, system administrator data, fail-over heart

beat, IP address of a channel control portion, NFS file lock information and cluster control information (See Venkatesh, Col. 5, lines 20-22).

Response to Arguments

18. Applicant's arguments filed on 28 July 2006 have been fully considered but they are not persuasive.

Regarding claims 1 and 9 Venkatesh teaches storage controller having dual redundant data paths and multiple redundant processors in the event of a failure to single path failure, and the disks can be accessed by either channel adapters, this is interpreted as processing portion configured to decide that data for said channel control portions are stored in a shared volume which is a storage region logically set on physical storage regions provided by said storage devices and which can be accessed commonly by any other channel control portion belonging to the same group to carry out fail-over (See Fig. 3, and Col. 4, lines 47-55). Venkatesh teaches redundant processors which include redundant channel adapters to continue access in the event of a failure, this is interpreted as whereby a successor channel portion belonging to the same group as a predecessor channel receives data that have been previously received by the predecessor channel portion prior to failure thereof. (See Fig. 3, and Col. 4, lines 47-55).

Venkatesh is silent on the data regarding at least on IP address set and providing NAS service to said information processors and Venkatesh is silent on a successor

channel control portion takes over the IP address of the predecessor channel portion, however Venkatesh does teach the system used as a network file server and teaches the use of redundant processors with redundant channel adapters (See Col. 4, lines 47-55 and Col. 5, lines 20-22). Luke teaches a system with NAS which supports NFS and TCP/IP (See page 4, paragraph 0083). Luke also teaches the use of a virtual service so that there is no need to reconfigure clients when services change and assigning virtual IP addresses (See page 4, paragraph 0081 and page 7, paragraph 0172). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the data storage device and virtual services of Venkatesh with the NAS of Luke. This would have been obvious to one of ordinary skill in the art at the time of the invention to do because NAS provides support for the industry-standard network file service (NFS) (See Luke, page 4, paragraph 0083).

Regarding claims 2 and 10, Venkatesh teaches the channel adapters having a shared memory for cache memory, this is interpreted as a processing portion configured to decide that data for said channel control portions are stored in a shared memory which is contained in said storage device controller and which can be accessed commonly by said channel control portions to carry out fail-over (See Fig. 3 and Col. 4, lines 55-61). Venkatesh teaches redundant processors which include redundant channel adapters to continue access in the event of a failure, this is interpreted as whereby a successor channel portion belonging to the same group as a predecessor

channel receives data that have been previously received by the predecessor channel portion prior to failure thereof. (See Fig. 3, and Col. 4, lines 47-55).

Venkatesh is silent on the data regarding at least on IP address set and providing NAS service to said information processors and Venkatesh is silent on a successor channel control portion takes over the IP address of the predecessor channel portion, however Venkatesh does teach the system used as a network file server and teaches the use of redundant processors with redundant channel adapters (See Col. 4, lines 47-55 and Col. 5, lines 20-22). Luke teaches a system with NAS which supports NFS and TCP/IP (See page 4, paragraph 0083). Luke also teaches the use of a virtual service so that there is no need to reconfigure clients when services change and assigning virtual IP addresses (See page 4, paragraph 0081 and page 7, paragraph 0172). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the data storage device and virtual services of Venkatesh with the NAS of Luke. This would have been obvious to one of ordinary skill in the art at the time of the invention to do because NAS provides support for the industry-standard network file service (NFS) (See Luke, page 4, paragraph 0083).

Regarding claims 3 and 11 Venkatesh teaches the disk arrays being mirrored so that the second disk array contains a copy of all the data from the first disk array, this is interpreted as a processing portion configured to decide that data for said channel portions are sent to another channel control portion belonging to the same group, through a network connecting said channel portions to one another to carry out fail-over

(See Fig. 3, and Col. 4, lines 30-36). Venkatesh teaches redundant processors which include redundant channel adapters to continue access in the event of a failure, this is interpreted as whereby a successor channel portion belonging to the same group as a predecessor channel receives data that have been previously received by the predecessor channel portion prior to failure thereof. (See Fig. 3, and Col. 4, lines 47-55).

Venkatesh is silent on the data regarding at least on IP address set and providing NAS service to said information processors and Venkatesh is silent on a successor channel control portion takes over the IP address of the predecessor channel portion, however Venkatesh does teach the system used as a network file server and teaches the use of redundant processors with redundant channel adapters (See Col. 4, lines 47-55 and Col. 5, lines 20-22). Luke teaches a system with NAS which supports NFS and TCP/IP (See page 4, paragraph 0083). Luke also teaches the use of a virtual service so that there is no need to reconfigure clients when services change and assigning virtual IP addresses (See page 4, paragraph 0081 and page 7, paragraph 0172). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the data storage device and virtual services of Venkatesh with the NAS of Luke. This would have been obvious to one of ordinary skill in the art at the time of the invention to do because NAS provides support for the industry-standard network file service (NFS) (See Luke, page 4, paragraph 0083).

These clarifications have been added to the above rejections.

Conclusion

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Manoskey whose telephone number is (571) 272-3648. The examiner can normally be reached on Mon.-Fri. (7:30am to 4pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JDM
August 17, 2006

ROBERT BEAUSOLIEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100